

Remarks

This is responsive to the Office Action mailed May 27, 2010. The amendments and accompanying remarks herein are proper, they are entirely in accordance with Rule 116, and they are solely clarifying in nature of the previously filed subject matter and thereby entirely tangentially related to patentability, not made for reason of patentability in response to a rejection over any cited reference.

New claim 28 is identified as being allowable in the Advisory Action, as agreed to in the telephone interview of May 18, 2010.

Applicant respectfully requests entry of the amendments and reconsideration on the merits. Absent the requested reconsideration, for reasons explained below there remain unresolved factual issues making this case not in condition for appeal.

Objection to Drawings

The Office objects to the drawings by asserting Rule 83(a) which requires the drawings to show every feature of the invention that is specified in the claims.¹ However, in doing so the Office ignores the requisite premise from Rule 81 that the drawing is even necessary.² The Office makes no showing that a drawing is necessary for the skilled artisan to understand the subject matter of claim 27; rather, the Office ignores the requisite premise and attempts to merely enforce an unsubstantiated positive premise. Although the Office's objection is reversible error, Applicant has nonetheless cancelled claim 27 without prejudice solely to remove the issue and facilitate progress on the merits.

¹ Office Action pg. 2.

² "The applicant for a patent is required to furnish a drawing of his or her invention where necessary for the understanding of the subject matter sought to be patented...." Rule 81(a).

Section 103 Rejection of Claims 1, 6, 9-14, 21, and 26-27

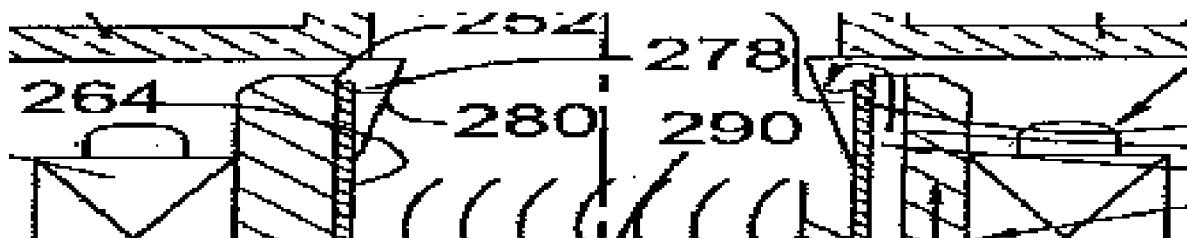
These claims stand rejected as allegedly being unpatentable over Tanaka (US 4,934,836) in view of Moritan (US 5,715,116).

1. The Office's reasoning for modifying Tanaka in view of Moritan leaves an unresolved factual issue making the case not in condition for appeal.

Applicant agrees with the Office to the extent of its admission that Tanaka does not teach or suggest at least the capillary seal, the channel, and the structural interconnecting features of claim 1.³ The specification defines the capillary seal 278 in terms of consistency with its common meaning to the skilled artisan, a seal structure that retains the working fluid in the bearing:

In one embodiment, the bearing fluid flows over the top of wall 264 and into a reservoir 277 of a capillary seal 278, which is defined between the wall 264 and a tapered section 280 of the shaft 202...As is commonly known in the art, the capillary seal 278 retains the bearing fluid within the FDB spindle bearing 200.⁴

The skilled artisan understands the fluid retained in the bearing is depicted in FIG. 2 by the meniscus formed by the liquid bearing fluid retained between the surfaces 264, 280:



Although Moritan never uses the term “capillary seal,” the Office reads the featured capillary seal on Moritan’s space 21a, which is in fluid communication with its groove 23b. The Office points to Moritan’s disclosure that the purpose of the space 21a is to retain

³ Office Action pg. 4.

⁴ Paragraph [0034] of published application (emphasis added).

liquid bearing fluid that is displaced from the sleeve bore into and through the groove 23b as a result of inserting the shaft 12 into the sleeve 21 during the assembly process.⁵ That disclosed purpose in Moritan forms the Office's rationale for modifying Tanaka to include Moritan's so-called capillary seal, that doing so would allegedly be advantageous "for the desired purpose of permitting smooth assembly of the motor."⁶

However, the skilled artisan readily recognizes that the Office's suggested modification of Tanaka is entirely superfluous for its stated reasoning for making the modification. That is, fundamentally, the skilled artisan understands that Tanaka discloses a bearing that uses a gas for a bearing fluid, not a liquid like Moritan and the claimed invention. On that fundamental cognizance, the skilled artisan realizes that the Office's suggestion that there might be some difficulty in assembling Tanaka's shaft into its sleeve is a mischaracterization of what Tanaka actually discloses. Particularly, the skilled artisan readily recognizes that during such an insertion the gas in the sleeve is freely displaced through the aperture 17 into the space 20 and, in turn, through the groove 21 and ultimately exhausted into the enclosure.

Given the disparity (unacknowledged by the Office) that the skilled artisan knows it would be superfluous to follow the Office's suggestion to add Moritan's so-called capillary seal to Tanaka's gas bearing, the Office has failed entirely to show how such a modification would teach or suggest the featured structural interconnections between the capillary seal and the channel. For example, without limitation the Office has not shown that the cited references teach or suggest, even in its erroneous combination, at least *the channel...fluidly*

⁵ See Moritan col. 8: 42-58.

⁶ Office Action pg. 5.

communicates recirculating fluid from the fluid dynamic bearing via the passage to the inlet reservoir.

KSR left untouched the requirement that a teaching for each claim limitation must be shown in the prior art in order to substantiate a *prima facie* case of obviousness.⁷ The Office also has the burden of substantiating evidence that the requisite motivation exists for the skilled artisan to combine and/or modify the cited references to arrive at the claimed invention. In assessing whether a case has been made, the obviousness rejection must be evaluated in view of the *Graham*⁸ factors: (a) determining the scope and content of the prior art; (b) ascertaining the differences between the claimed invention and the cited references; and (c) resolving the level of ordinary skill in the pertinent art.⁹

KSR clarified that the *Graham* analysis is indeed the legal touchstone to determining obviousness.¹⁰ The *KSR* Court reasoned that there must be “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”¹¹ Here, the Office’s stated reasoning is that it would allegedly be advantageous to do so to “for the purpose of permitting smooth assembly.”¹² Applicant has shown that reasoning is reversible error for being based on a mischaracterization of what Tanaka actually discloses.

Without admitting that the Office has shown teachings of any individual element, even a rationale that says modifications of the prior art to meet the claimed invention would have been within the knowledge of a skilled artisan because different aspects of the claimed invention are individually taught by multiple references is not sufficient to substantiate

⁷ *In re Royka*, 180 USPQ 580 (CCPA 1974); *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970); MPEP 2143.03; MPEP 2141.

⁸ *Graham v. John Deere*, 383 US 1 (1966).

⁹ See MPEP 2141.

¹⁰ *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

¹¹ *KSR* at 1396, quoting *In re Kahn*, 78 USPQ2d 1329 (Fed. Cir. 2006).

¹² Note _____.

prima facie obviousness without some objective reason to combine the teachings of the references.¹³

The only reasonable conclusion is that the Office's stated reasoning for the combination is lacking the requisite rational underpinning to support any legal conclusion of obviousness, because it is not factually substantiated but is rather merely an unsubstantiated conclusory statement that in fact mischaracterizes the cited reference. Lacking the requisite legal reasoning, the Office's rejection fails to pass muster under *Graham* because ultimately it has the effect of being based entirely upon an impermissible hindsight reconstruction of the claimed embodiments. Given the subtle but powerful attraction of a hindsight-based obviousness analysis, a rigorous application of the requirement of an evidentiary basis for the rejection must be followed.¹⁴

Therefore, the Office has failed to show *prima facie* obviousness at least by failing to substantiate evidence that the cited references teach or suggest all the recited features of claim 1, and failed to objectively show that the skilled artisan would be motivated to combine and/or modify the cited references to arrive at the subject matter of claim 1. Absent the reconsideration requested below, the Office's mischaracterization of the cited reference and failure to make a *prima facie* showing leave unresolved factual issues that must be addressed before it can be said that this case is in condition for appeal.

2. The Office's suggestion that the skilled artisan would modify Tanaka to add a capillary seal for any reason leaves an unresolved factual issue making this case not in condition for appeal.

¹³ *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993); *In re Kotzab*, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000); *Al-Site Corp. v. VSI Int'l Inc.*, 50 USDPQ2d 1161 (Fed. Cir. 1999); MPEP 2143.01.

¹⁴ *In re Dembicza*k, 175 F.3d 994, 999 (Fed. Cir. 1999).

Applicant has previously pointed out in the record that the Office's reliance on adding a capillary seal to Tanaka ignores what the skilled artisan knows, that a capillary seal would fundamentally serve no advantageous purpose whatsoever in a gas bearing.¹⁵ The Office has now made the rejection final on that very combination, without comment as to why despite Applicant's evidence of nonobviousness to the contrary. Applicant respectfully requests that the Office answer the substance of Applicant's argument in order to properly complete the record.¹⁶

Applicant has shown above that the common meaning of "capillary seal" is a seal structure that retains the bearing fluid in the bearing. To do so the skilled artisan knows that a capillary seal purposefully ejects gas out of the bearing fluid:

As persons skilled in the art will understand, the orientation of the flow of bearing fluid through circulation passage 292 beneficially purges trapped air from the fluid dynamic bearing 230 during operation, thereby enhancing motor performance. More specifically, the pumping action of journal bearing 282 and thrust bearing 284 causes the trapped air to flow through the recirculation channel 292 towards the top of the wall 264 along with the bearing fluid. As the bearing fluid reaches the top of the wall 264 and spill over into the reservoir 277 of capillary seal 278, the trapped air bubbles out of the bearing fluid into the surrounding environment.¹⁷

The rules of the PTO require that application claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.¹⁸ Thus, during examination claims are given their broadest reasonable interpretation consistent with the

¹⁵ Applicant's Response of 3/1/2010 pg. 8.

¹⁶ MPEP 707.07(f).

¹⁷ Para. [0037] of the published application (emphasis added).

¹⁸ *Phillips v. AWH Corp.*, 75 USPQ2d 1321 (Fed. Cir. 2005)(en Banc), quoting 37 C.F.R. § 1.75(d)(1).

specification.¹⁹ The broadest reasonable interpretation is the meaning that the skilled artisan would give to the claim term in view of the associated usage provided in the specification.²⁰ A construction that is inconsistent with the written description would not be arrived at by the skilled artisan, and is therefore not a reasonable interpretation.²¹

Here, evidence in the record shows that the common meaning of “capillary seal” is a seal structure that retains bearing fluid in the bearing while the bearing is operational. Tanaka, being a gas bearing, functions entirely differently than using a capillary seal to retain bearing fluid in the bearing while the bearing is operational. The skilled artisan knows that Tanaka would actually be rendered inoperable for its intended purpose by a capillary seal that retained bearing fluid in the bearing while it is operational; that is an indicia of nonobviousness in the record not rebutted by the Office in the record.²² Particularly, during operation Tanaka sucks gas from the housing 10, passes the gas once through the bearing, then exhausts the gas to the housing 10:

a gas within the housing 10 is sucked into a radial space between the radial bearing surface 15 and the radial receiving surface 35 and flows into the pressure chamber 37. As a result, the shaft member 30 floats due to the gas pressure in the pressure chamber 37. When the shaft member 30 floats, the restricted aperture 17 opens to the pressure chamber 37, and the gas flowing into the pressure chamber 37 flows upwardly in the passage groove 21 through the restricted aperture 17 and the space 20, and is then exhausted into the housing 10. (Tanaka, col. 8, lines 58-68)

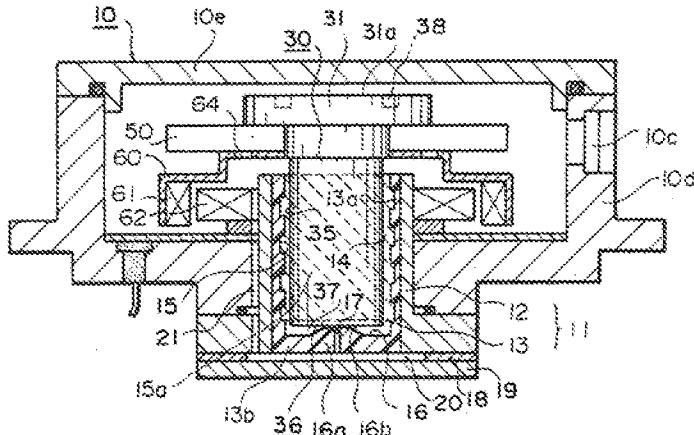
¹⁹ *Phillips, supra*; MPEP 2111

²⁰ *In re American Academy of Science Technical Center*, 70 USPQ2d 1827 (Fed. Cir. 2004); *In re Cortright*, 49 USPQ2d 1463, 1468 (Fed. Cir. 1999); *In re Morris*, 44 USPQ2d 1023 (Fed. Cir. 1997)

²¹ *Phillips, supra*; *In re Morris, supra*; *In re Zletz*, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)

²² MPEP 2145.

FIG.2



Tanaka does not retain bearing fluid in the bearing when the bearing is operational.

The Office's reasoning for the rejection completely ignores the structural differences between a liquid bearing and a gas bearing, conveniently shirking its obligation to show why the skilled artisan would agree that Tanaka's gas bearing structure would be encompassed within the broadest reasonable interpretation of "capillary seal" that is consistent with the common meaning of the term and its usage in the specification. Absent the reconsideration requested below, the Office's unsubstantiated reasoning that the broadest reasonable interpretation of "capillary seal" includes some component of Tanaka's gas bearing structure leaves an unresolved factual issue that must be addressed before it can be said that this case is in condition for appeal.

Conclusion

For these reasons, the Office has failed to substantiate a *prima facie* showing of obviousness. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1 and the claims depending therefrom.

This is a complete response to the Office Action mailed May 27, 2010. Applicant respectfully requests passage of all claims to allowance. If not, Applicant has also submitted herewith a request for telephone interview before the Office enters the next action. The presently requested interview is necessary and appropriate in view of the protracted prosecution history to best facilitate progress on the merits and to address the unresolved issues presently making this case not in condition for appeal.

The Office is encouraged to contact the undersigned should any question arise concerning this response or anything else concerning this case.

Respectfully submitted,

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